

**SOLODENNIKOV, A.I. (g. Kirov)**

Microscopic observation of crystals of salts and alloys. Khim.  
v shkole 9 no.6:59-62 N-D '54. (MIRA 8:1)  
(Crystallography)

Solodenikov, A.I.

3  
4E2C

The determination of the boundaries of phase regions on the diagram of state of ternary metallic systems by the hardness method. A. I. Solodenikov. Uchenye Zapiski Kirov. Gosudarst. Pedagog. Inst. 6, No. 2, 117-39(1965); Referat. Zhur., Met. 1956, No. 3442. — At points of intersection of the cross-section of ternary diagrams with the lines of double eutectics, the max. upon the hardness curve was observed; this is attributed to the nonequill. state of eutectic alloys. This effect can serve to det. the position of eutectic lines upon the phase diagrams. Zn-Al-Cu, Sn-Sb-Cu, Zn-Al-Mn, and Cd-Bi-Pb alloys were studied. Microhardness, elec. resistance, and microstructure of the sepd. phases depend on the compns. of the alloys. Resistance and hardness of the alloys of ternary metallic systems, with the linked solv. in solid state and with formation of eutectic, do not change in the same way in most cases. This effect was not observed in the binary alloys. The  
of  $\gamma$ -Fe; this effect leads to a formation two-dimensional ion complexes, which differ from the complexes in the remaining vol. of lattice. The complexes are considered as favorable from the point of view of satn. by one of the components if the absorbing ion is retained by the surface of steel. The complexes are unfavorable if the absorbing ion will desorb, under the action of repelling forces. — The relation between the surface concn. of carbon and nitrogen in the process of satn. depends on the probability of formation of favorable and unfavorable ion complexes of these elements.  
Alexis N. Pestoff

BEREZINA, N.F. (Kirov); POPOVA, Z.V. (Kirov); SOLODENNIKOV, A.I. (Kirov)

Practical studies of students in a plant chemical laboratory.  
Khim.v shkole 11 no.5:62-63 S-0 '56. (MLBA 9:11)  
(Chemistry--Study and teaching)

66510

30V/137-59-7-155561

18.1260  
Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 7, p 195 (USSR)

AUTHORS: Golodennikov, A.I.

TITLE: Microhardness of Alloys of the Tin-Bismuth-Antimony System

PERIODICAL: Uch. zap. Kirovskiy gos. ped. in-t, 1958, Nr 14, pp 5 - 9

ABSTRACT: Investigations were carried out on the character of microhardness dependence upon the type of structural diagram for the triple Sn - Bi - Sb system in which mechanical mixtures of solid solutions are formed. Two samples were subjected to investigations: one with a constant Sb content and another with a constant Bi : Sb = 1 : 1 ratio. The microhardness of alloys was determined with the use of a "TMT-3" device under a load of 20 g. For the majority of the alloys investigated, the hardness was determined by the Brinell method. In graphs where composition of alloys is plotted versus hardness, the borders of phase zones correspond to intersections of curve branches in the form of a maximum, minimum or break point. Within the phase zones the hardness of alloys changes along smooth curves. The microhardness of the  $\beta$ -phase changes along a complicated curve; the existence of a horizontal section on the

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SOV/137-59-7-15561

## Microhardness of Alloys of the Tin-Bismuth-Antimony System

curve of property proves the saturation of this solid solution. The microhardness of  $\alpha$ - and  $\beta$ -phases changes along less complicated curves: the microhardness curve of the  $\alpha$ -phase has a minimum corresponding to the phase border; the microhardness of the  $\gamma$ -phase changes along a smooth curve. Investigations were also carried out into the interdependence of hardness and microstructure of individual structural alloy constituents. It is stated that changes in microhardness of a solid  $\gamma$  solution are monotypical with changes in hardness of the same phase. In the two-phase  $\beta + \gamma$  zone of a 5.5 Bi sample the hardness of alloys increases continuously, in spite of the fact that microhardness of a peritectic  $\beta + \gamma$ -mixture and also microhardness of the  $\beta$ -phase (from 15 to 30% Sb) decreases with higher Sb content in the alloys. The results obtained are explained by the decisive effect of mixtures with reciprocal distribution of structural constituents upon the hardness of multi-phase alloys. Additive property of hardness is only obtained when the soft constituent is distributed in the form of individual inclusions and the general structure is granulated. In two-phase  $\beta + \gamma$  and three-phase  $\alpha + \beta + \gamma$  zones higher Sb content in the alloys causes increased amount of the  $\beta$ -phase but  $\beta$ -crystals are surrounded by soft constituents -  $\beta + \gamma$  peritectics or triple  $\alpha + \beta + \gamma$  mixtures. The hardness of alloys in these zones increases according to the higher Sb content, but does not represent an additive property. ✓  
The hardness of

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S/149/60/000/006/013/018  
A006/A001

AUTHOR: Solidennikov, A. I.

TITLE: On the Deviation of Microhardness From Additivity of Some Low Melting Eutectic Alloys

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960, No. 6, pp. 132 - 137

TEXT: Eutectics of some metal alloys were studied by A. M. Korol'kov and E. S. Kadaner (Ref. 2), Ye. M. Drits and N. V. Dokukina (Ref. 3), and A. A. Bochvar and Z. A. Sviderskaya (Ref. 4). Bochvar indicates that for eutectic alloys the law of additivity in respect to microhardness is not observed. The author undertook to reveal the magnitude of deviation of microhardness of eutectics from values calculated by the law of additivity when the composition of the alloy is expressed in weight, volumetric and atomic per cent. Eutectics of the following systems were investigated. Cd-Bi; Cd-Sn; Cd-Pb, Zn-Cd, Zn-Sn, and Sb-Pb; Cd-Bi-Sn, Cd-Bi-Pb, Cd-Sn-Pt and Sn-Bi-Pb; and the Cd-Sn-Bi-Pb system with limited solubility in solid state. The following initial materials for the preparation of eutectic alloys were used: plumb, lead, cadmium, zinc, granulated

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A006/A001

On the Deviation of Microhardness From Additivity of Some Low Melting

bismuth and antimony. The alloys were annealed for 120 hours at 5 - 10°C below the melting point of the alloy, except the eutectic Cd-Sn alloy which was annealed at 120°C. Microhardness of the alloys and pure metals was measured on a ПМТ-3 (PMT-3) device under 20 g load, except lead, for which the load was diminished to 10 g. The time of holding under the load was 15 sec. and the number of imprints was 40. The additive value of eutectic microhardness was calculated by the formula

$$H\mu = \frac{H_A C_A + H_B C_B + H_C C_C}{100} + \dots \text{kg/mm}$$

where  $H_A$ ,  $H_B$ ,  $H_C$  .... are the microhardness values of pure metals;  $C_A$ ,  $C_B$ ,  $C_C$ .... are the contents of eutectic components in weight, volumetric or atomic per cent. It was found that the microhardness of eutectics is not an additive property when expressed by any of the aforementioned values of concentration. It is assumed that the deviation of eutectic microhardness from the law of additivity is closely connected with the atomic interaction of metals in eutectic alloys. The authors explain this deviation by considering the donor-acceptor concepts on the nature of eutectics given by N. S. Savchenko (Ref. 6). It is assumed that on the

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contact spots of crystals of different phases, "contact" groups of atoms are formed which can strengthen or weaken the intercrystalline bonds. Eutectic microhardness increases in the case of a strengthening effect and decreases at a weakening effect of the groups. This explains the positive and negative deviations of microhardness of annealed eutectics from microhardness values calculated by the law of additivity. The magnitude of deviations depends on the content of that component in the eutectic alloy which is the acceptor of electrons, independent of the metal which acts as acceptor. It is shown that the sign of deviation is determined by the atomic concentration of the electron acceptor: at a content of the acceptors from 14.1 to 25.4 atomic %, these deviations are negative; above 25.4 atomic % their sign is positive. The magnitude of relative deviation of microhardness from values calculated by the law of additivity depends on the structure of eutectics. With a higher degree of dispersion of the eutectics, the surface of phase crystals which are in mutual contact increases. Consequently, the number of contact groups of atoms and their effect on eutectic microhardness increase as well. This assumption was checked by experimental cooling of some alloys in ice water and in a thermostat. The results of measuring the microhardness of eutectics crystallized

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On the Deviation of Microhardness From Additivity of Some Low Melting

ing at different cooling rates of the melts show that at a higher crystallization rate of the melt, the deviation of eutectic microhardness from the values calculated by the law of additivity, increases. There are 3 tables, 2 figures and 7 Soviet references.

ASSOCIATION: Kirovskiy pedagogicheskiy institut (Kirov Pedagogic Institute)  
Kafedra khimii (Department of Chemistry) ✓

SUBMITTED: May 10, 1960

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SOLODOVNIKOV, A. I.

Microhardness of alloys in the cadmium angle in the system cadmium -  
tin - bismuth - lead. Izv. vys. ucheb. zav.; tsvet. met. 8  
no.1:125-131 '65. (MIRA 18:6)

1. Kirovskiy pedagogicheskiy institut, kafedra khimii.

AKACHAIN, Vasilij Ivanovich; DULMAN, V.A., et al., 1964.  
(Ajustement et tracage des régulateurs de moteur. 1967,  
izd-vo "Kolos," 1964. 286 p.)

NAZAROV, G.I., doktor tekhn. nauk; OLEYNIK, N.P.; FOMENKOV, A.P.;  
YUROVSKIY, I.M.; SOLODENIKOVA, G.A., red.

[Principles of electric drives and use of electrical  
energy in agriculture] Osnovy elektronnivoda i primenenie  
elektricheskoi energii v sel'skom khozyaistve. [By] G.I.  
Nazarov i dr. Moskva, Kolos, 1965. 191 s.

(MIRA 18:7)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokho-  
zyaystvennykh nauk imeni V.I.Lenina (for Nazarov).

KARPENKO, Aleksandr Nikolayevich, akademik, doktor tekhn. nauk,  
prof.; ZELENEV, Aleksandr Alekseyevich, kand. tekhn.  
nauk, dots.; SOLODENIKOVA, G.A., red.

[Agricultural machinery] Sel'skokhoziaistvennye mashiny.  
Moskva, Kolos, 1965. 398 p. (MIRA 18:6)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk  
imeni V.I.Lenina (for Karpenko). 2. Moskovskaya sel'sko-  
khozyaystvennaya akademiya im. K.A.Timiryazeva (for  
Zelenov, Karpenko).

ARDASHEV, Gavriil Romanovich, kand. tekhn. nauk; MIKHAYLOV,  
Igor' Nikolayevich, inzh.; MORSHIN, Aleksandr  
Vasil'yevich, kand. tekhn. nauk; SOLODENIKOVA, G.A.,  
red.

[Technical maintenance of the machinery and tractor fleet]  
Tekhnicheskoe obsluzhivanie mashinno-traktornogo parka.  
Moskva, Kolos, 1965. 526 p. (MIRA 18:7)

BERZIN, A.A., inzh.; BORODIN, I.F., kand. tekhn. nauk; LUKOVNIKOV,  
A.V., kand. tekhn. nauk; FRONNIKOVA, M.I., kand. tekhn.  
nauk; SERGOVANTSEV, V.T., kand. tekhn. nauk; YURASOV, V.V.,  
kand. tekhn. nauk; BURGUCHEV, S.A., zasl. deyatel' nauki i  
tekhniki RSFSR doktor tekhn. nauk, prof., red.; NIKITINA,  
V.I., red.; SOLODENKOVA, G.A., red.; SOKOLOVA, N.N., tekhn.  
red.

[Course on elelctric power plants, substations, and power  
systems] Praktikum po elektricheskim stantsiam, podstantsi-  
iam i sistemam. [By] A.A.Berzin i dr. Moskva, Sel'khozizdat,  
(MIRA 16:12)

1963. 303 p.

(Electric power plants)  
(Electric power distribution)

RUBTSOV, I.A., kand. tekhn. nauk; OSETROV, F.A., kand. tekhn. nauk; BONDARENKO, S.P., kand. tekhn. nauk; SEVINKOV, K.P., kand. tekhn. naik; VOLCHENKOVA, G.L., red.

[Use of electrical power in agriculture] Primenenie elektricheskoi energii v sel'skom khoziaistve. Izd.2., perer. i dop. [Byl P.A.Rubtsov i dr. Moskva, Kolos, 1964. 502 p.] (MIRA 17:10)

VAGIN, Pavel Ivanovich; GLEBOVICH, Aleksandr Aleksandrovich;  
SOLODENIKOVA, G.A., red.

[Principles of automatic control and automation of production processes in agriculture] Osnovy avtomatiki i avtomatisatsiiia proizvodstvennykh protsessov v sel'skom khoziaistve. Moskva, Izd-vo "Kolos," 1964. 270 p.  
(MIRA 17:11)

BEL'SKIY, V.I., inzhener; SOLODENNIKOV, L.D., inzhener.

Rapid method of fireproofing blast furnaces. Byul. stroi. tekhn.  
10 no.4:5-9 F '53. (MLRA 6:12)

1. Proyektstal'konstruktsiya.

(Steelworks)

BEL'SKIY, Viktor Isenovich; SOLODENNIKOV, Leonid Dmitriyevich;  
SERGEYEV, B.V., nauchnyy red.; LYTKINA, L.S., red.izd-va;  
GILENSEN, P.G., tekhn.red.

[Manual on the building of industrial furnaces] Rukovodstvo  
po kladke promyshlennykh pechei. Moskva, Gos.izd-vo lit-ry  
po stroit., arkhit. i stroit.materialam, 1959. 256 p.  
(MIRA 13:2)

(Furnaces--Construction) (Refractory materials)

BEL'SKIY, V.I.; BORISOV, V.V.; VOLYNTSEV, V.A.; GOYKOLOV, Ye.F.; ZHOVNI-  
ROVSKIY, N.V.; ISSERS, A.Ye.; MAKAROV, N.S.; ROTNITSKIY, M.L.;  
TEBEN'KOV, B.P.; TROITSKIY, V.A.; CHEREVOV, A.V., inzh.; AGURIN,  
A.P., nauchnyy red.; SOLODENNIKOV, L.D., nauchnyy red.; TOLKACHEV,  
P.I., nauchnyy red.; KHLUDYEVA, Ye.O., red.izd-va; EL'KINA, E.M.,  
tekhn.red.

[Handbook on special operations; construction of industrial  
furnaces] Spravochnik po spetsial'nym rabotam; sooruzhenie pro-  
myshlennyykh pechei. Pod red. A.V.Chernova. Izd.3., ispr. i dop.  
Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam,  
(MIRA 13:6)  
1960. 694 p.

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut  
"Teploproyekt".  
(Furnaces--Construction)

0015  
S/126/62/013/003/008/023  
E111/E435

/8.1110

AUTHORS: Svechnikov, V.N., Golybev, S.S., Solodey, I.M.  
TITLE: Influence of deoxidation with aluminium on austenite  
grain growth and the cold-brittleness of steel  
PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.3, 1962,  
387-393

TEXT: The authors state that although there is indirect evidence that grain growth in aluminium-deoxidized steel is retarded by aluminium nitrides, this has not yet been proved by a direct experiment showing the presence of the highly-dispersed nitrides at the boundaries of fine austenite grains. The object of the present investigation was to supply data on this and the related questions, to assist the formulation of a theory explaining the role of deoxidation with aluminium in the production of fine-grain steel. Two heats of a medium-carbon steel were treated while liquid with ferro-phosphorus and nitrogen to give about 0.1% P and 0.007 and 0.010% N. Aluminium (300 g/ton) was introduced into the stream of metal going into Card 1/3

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Influence of deoxidation ...

the ingot mould. Forged and normalized 15 x 15 mm bars were used; for studying grain growth in cast steel, small test pieces were cut from ingots before forging. Tendency to austenite-grain growth was measured by a published method, grain size being determined from the ferrite lattice. The authors conclude that grain growth is, in fact, hindered by highly dispersed aluminium nitrides at grain boundaries. Heat treatments leading to coagulation of the nitrides produce austenite grain growth, the growth starting temperature being reduced by about 150°C by suitable heat treatment. The growth-hindering effect can be restored by heat treatment leading to solution of the coagulated nitrides. The growth starting temperature can be raised almost to that in cast steel. Investigation of cold brittleness after various heat treatments indicates that, in addition to grain size, other factors also substantially affect the cold-brittleness limit: in steel annealed at 820°C with a fine-grained ferrite-pearlite structure, the temperature for transition into the brittle state is almost 100°C higher than in fine-grained steel normalized from the same temperature. The authors conclude that

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E111/E435

Influence of deoxidation ...

embrittlement in annealing is due to the same structure of changes that produce reversible temper brittleness.  
There are 6 figures and 1 table.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut  
(Kiyev Polytechnical Institute)

SUBMITTED: May 12, 1961.

Card 3/3

SOLODIKHIN, A. G., PISAREV, N. N. and MINKOVICH, A. N.

"Nitriding as a Method of Protecting Steel from Corrosion," ITEIN, Moscow, 1940.

SCIODINOV, A. G.

Mekhanizatsiya protsessov termicheskoi obrabotki; al'bom chertezhei.  
Moskva, Mashgiz, 1950. 53 p. of diagrs.

(Mechanization of heat-treatment processes; sketch-book of drafts.)

DLC: TS?13.S6

SG: Manufacturing and Mechanical Engineering in the Soviet Union,  
Library of Congress, 1953.

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5

VELEBISHIN, A. G. (1957)

VELEBISHIN, A. G. (CNSP) - "CONTINUOUS THERMAL PASSING." JOURNAL OF METALLURGY  
AND THE BALKAR INSTITUTE OF STEEL (MENT. I. V. STALIN (DEFERATION FOR THE DEGREE OF  
CANDIDATE IN TECHNICAL SCIENCES)

DO: VECHERNIAYA MOSKVA, JANUARY-DECEMBER 1956

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5"

SOLODIKHIN, A.G., kandidat tekhnicheskikh nauk.

[Organization and economics of progressive thermal processing of metal]  
Organizatsiya i ekonomika progressivnykh protsessov termicheskoi obrabotki  
metallov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1953.  
(MLRA 6:8)  
350 p.  
(Metals--Heat treatment)

SOLODIKHIN, A. G.

"Continuous Methods of Heat Treatment in Machine Construction," pp 279/335  
in Modern Methods of Heat Treating Steel by Dom Inzherera i Tekhnika imeni F E  
Dzerzhinskovo. Gosudarstvennoye Nauchno-Tekhnicheskoye Izdatel'stvo Mashinostroitel'noy  
Literatury, Moscow (1954) 404 pp.

B-86350, 30 Jun 55

ROZGAUZEN, A.G.

AL'TGAUZEN, O.N., kandidat fiziko-matematicheskikh nauk; BERNSHTEYN, M.L., kandidat tekhnicheskikh nauk; BLANTER, M.Ye., doktor tekhnicheskikh nauk; BOKSHTZYN, S.Z., doktor tekhnicheskikh nauk; BOLKHOVITINOVA, Ye.N., kandidat tekhnicheskikh nauk; BORZDYKA, A.M., doktor tekhnicheskikh nauk; BUNIN, K.P., doktor tekhnicheskikh nauk; VINOGRAD, M.I., kandidat tekhnicheskikh nauk; VOLOVIK, B.Ye., doktor tekhnicheskikh nauk [deceased]; GAMOV, M.I., inzhener; GELLER, Yu.A., doktor tekhnicheskikh nauk; GORELIK, S.S., kandidat tekhnicheskikh nauk; GOL'DENBERG, A.A., kandidat tekhnicheskikh nauk; GOTLIB, L.I., kandidat tekhnicheskikh nauk; GRIGOROVICH, V.K., kandidat tekhnicheskikh nauk; GULYAYEV, B.B., doktor tekhnicheskikh nauk; DOVGAL'EVSKIY, Ya.M., kandidat tekhnicheskikh nauk; DUDOVTSOV, P.A., kandidat tekhnicheskikh nauk; KIDIN, I.N., doktor tekhnicheskikh nauk; KIPNIS, S.Kh., inzhener; KORITSKIY, V.G., kandidat tekhnicheskikh nauk; LANDA, A.F., doktor tekhnicheskikh nauk; LENYKIN, I.M., kandidat tekhnicheskikh nauk; LIVSHITS, L.S., kandidat tekhnicheskikh nauk; L'VOV, M.A., kandidat tekhnicheskikh nauk; MALYSHEV, K.A., kandidat tekhnicheskikh nauk; MEYERSON, G.A., doktor tekhnicheskikh nauk; MINKEVICH, A.N., kandidat tekhnicheskikh nauk; MOROZ, L.S., doktor tekhnicheskikh nauk; NATANSON, A.K., kandidat tekhnicheskikh nauk; NAKHIMOV, A.M., inzhener; NAKHIMOV, D.M., kandidat tekhnicheskikh nauk; POGODIN-ALEKSEYEV, G.I., doktor tekhnicheskikh nauk; POPOVA, N.M., kandidat tekhnicheskikh nauk; POPOV, A.A., kandidat tekhnicheskikh nauk; RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk; ROGEL'BERG, I.L., kandidat tekhnicheskikh nauk;

(Continued on next card)

AL'TGAUZEN, O.N.---- (continued) Card 2.

SADOVSKIY, V.D., doktor tekhnicheskikh nauk; SALTYKOV, S.A.,  
inzhener; SOBOL'EV, N.D., kandidat tekhnicheskikh nauk; ~~SOLODOUKHIN,~~  
~~A.G.~~ kandidat tekhnicheskikh nauk; UMANSKIY, Ya.S., kandidat  
tekhnicheskikh nauk; UTEVSKIY, L.M., kandidat tekhnicheskikh nauk;  
FRIDMAN, Ya.B., doktor tekhnicheskikh nauk; KHIMYSHIN, F.F.,  
kandidat tekhnicheskikh nauk; KHRUSHCHEV, M.M., doktor tekhniches-  
skikh nauk; CHERNASHKIN, V.G., kandidat tekhnicheskikh nauk; SHAPIRO,  
M.M., inzhener; SHKOL'NIK, L.M., kandidat tekhnicheskikh nauk;  
SHRAYBER, D.S., kandidat tekhnicheskikh nauk; SHCHAPOV, N.P., doktor  
tekhnicheskikh nauk; GUDTSOV, N.T., akademik, redaktor; GORODIN, A.M.  
redaktor izdatel'stva; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor

[Physical metallurgy and the heat treatment of steel and iron; a  
reference book] Metallovedenie i termicheskaya obrabotka stali i  
chугуна; spravochnik. Pod red. N.T. Dudtsova, M.L. Bernshtaina, A.G.  
Rakhshtadta. Moskva, Gos. nauchno-tekh. izd-vo lit-ry po chernoi i  
tsvetnoi metallurgii, 1956. 1204 p. (MLRA 9:9)

1. Член -корреспондент Академии наук USSR (for Bunin)  
(Steel--Heat treatment) (Iron--Heat treatment)  
(Physical metallurgy)

ALFEROVA, N.S., doktor tekhn. nauk; BERNSTEYN, M.L., kand. tekhn. nauk; BLANIER, M.Ye., doktor tekhn. nauk; BOKSHTEYN, S.Z., doktor tekhn.nauk; VINOGRAD, M.I., kand. tekhn.nauk; GAMOV, M.I., inzh.; GELLER, Yu.A., doktor tekhn. nauk; GOTLIB, L.I., kand. tekhn. nauk; GRDINA, Yu.V., doktor tekhn.nauk; GRIGOLOVICH, V.K., kand. tekhn. nauk; GUIYAYEV, B.B., doktor tekhn. nauk; DOVGALEVSKIY, Ya.M., kand. tekhn. nauk; DUDOVTSOV, P.A., kand. tekhn. nauk [deceased]; KIDIN, I.N., doktor tekhn. nauk; LEYKIN, I.M., kand. tekhn. nauk; LIVSHITS, B.G., doktor tekhn. nauk; LIVSHITS, L.S., kand.tekhn. nauk; L'VOV, M.A., kand. tekhn. nauk; MEYERSON, G.A., doktor tekhn. nauk; MINKEVICH, A.N., kand. tekhn. nauk; NATANSON, A.K., kand. tekhn. nauk; NAKHIMOV, A.M., inzh.; NAKHIMOV, D.M., kand. tekhn. nauk; OSTRIN, G.Ya., inzh.; PANASENKO, F.L., inzh.; SOLODIKHIN, A.G., kand. tekhn.nauk; KHIMUSHIN, F.F., kand. tekhn. nauk; CHERASHKIN, V.G., kand. tekhn. nauk; YUDIN, A.A., kand. fiz.-mat. nauk; YANKOVSKIY, V.M., kand. tekhn. nauk; RAKHSHTADT, A.G., red.; GORDON, L.M., red. izd-va; VAYNSHTEYN, Ye.B., tekhn. red.

(Continued on next card)

ALFEROVA, N.S.--- (continued) Card 2.

[Metallography and the heat treatment of steel] Metallo-  
vedenie i termicheskaya obrabotka stali; spravochnik.  
Izd.2., perer. i dop. Pod red. M.L.Bernshtaina i A.G.  
Rakhshadta. Moskva, Metallurgizdat. Vol.2. 1962.  
1656 p. (MIRA 15:10)

(Steel--Metallography)  
(Steel--Heat treatment)

SOLNIKIN, A. N., M. Siger'jevich; MIKONOV, V.F., retsenzent;  
Shestopalov, G.Ya., inzh., red.

[Technical and economic principles of the heat treatment  
of metals] Tekhnicheskie i ekonomicheskie osnovy termi-  
cheskoi obrabotki metallov. Moskva, Mashinostroenie,  
(MIRA 18:11)  
1965. 450 p.

SOV/130-58-9-5/23

AUTHORS: Kablukovskiy, A.F., Leyzerov, Ya.S. and Solodikhin, I.P.

TITLE: Improvement of the Melting Technology of Resistance Alloys  
in Electric Furnaces (Usovershenstvovaniye tekhnologii  
vyplavki splavov soprotivleniya v elektropechakh)

PERIODICAL: Metallurg, 1958, nr 9, pp 12 - 15 (USSR)

ABSTRACT: Alloys for resistance-furnace windings are difficult to produce, the high proportion of rejects leading to high costs. In order to improve the melting of these alloys, the work described was carried out at the "Elektrostal'" Works (with the participation of N.A. Shirayev, V.Ye. Voynovskiy, M.Ya. Dzugutov, V.S. Nikol'skiy, Yu.V. Vinogradov and others). The alloys studied were 20-80 nichrome Kh2ON80 and iron-chromium-aluminium alloy (chromal) OKh25Yu5 with the respective compositions according to GOST 5632-51 of (Table 1): 0.15, 0.06% C max; 0.50, 0.60% Si max; 1.50, 0.70% Mn max; 20.0-23.0, 23.0-27.0% Cr; 75.0-78.0, 0.60% max Ni; 0, 4.50-6.50% Al; 0.025, 0.030% S max; 0.030, 0.035% P max; remainder Fe. For nichrome, the old procedure was to melt electrolytic nickel with metallic chromium, deoxidising in two stages with silico-calcium in the first (for slag) and silico-calcium (60-65% Si, 25-30% Ca) or silico-zirconium (30-35% Si, 20-25% Zr) in the second, and

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SOV/130-58-9-5/23

Improvement of the Melting Technology of Resistance Alloys in Electric  
Furnaces

adding ferrotitanium 5-10 min before tapping. The new method is based on the melting of a charge with up to 60% of alloy scrap containing nickel, chromium and titanium, mark N1 nickel and mark 1 and Z metallic chromium being added in the required quantities; deoxidation by submerging silico-calcium or metallic calcium in the metal with the aid of rods as well as by diffusion through the slag. The charge, to which selected lime and fluorspar are added, is melted at full power and mechanically stirred. Samples are taken for malleability after which deoxidation is effected and further samples are taken (figure). Good plasticity is obtained with careful control of the calcium content. Metal temperature in the ladle is 1 520 - 1 540 °C and ingots are top or bottom poured. A hot-top composition ( $65\%$   $TiO_2$  and  $35\%$  Al powder) is used together with white slag and the ingots are allowed to cool in the mould for at least two hours. The new method has enabled rolling in a 600-mill to be used instead of forging and accelerated and improved the melting process and the alloy quality

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Improvement of the Melting Technology of Resistance Alloys in Electric  
Furnaces

(Table 2). For the chromal alloy, the old procedure involved melting a fresh charge in 20-ton basic electric furnaces with an oxygen boil, alloying by adding low-carbon ferrochromium and primary lump aluminium during the refining period and adding aluminium-calcium and aluminium-barium alloys and cerium before tapping. The new method is based on: melting 1 500 kg carbon-containing scrap with 1620 kg type 45 steel scrap in a 5-ton furnace at full power with an ore boil and addition of chromium-aluminium alloy during refining; preliminary deoxidation of the bath with lump aluminium; the addition of metallic titanium (10 kg) or the corresponding amount of titanium containing scrap 5 min. before tapping; the use of carbon tetrachloride to protect the alloy from oxidation during bottom-pouring (tapping temperature 1 580 - 1 620 °C). Comparative data (Table 3) show the advantages of the new method.

There are 1 figure and 3 tables.

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SOV/130-58-9-5/23

Improvement of the Melting Technology of Resistance Alloys in  
Electric Furnaces

ASSOCIATION: Zavod "Elektrostal'" im. I.F. Tevosyana  
("Elektrostal'" Works imeni I.F. Tevosyan)

Card 4/4      1. Corrosion resistant alloys--Production    2. Industrial  
                  production--USSR    3. Electric furnaces--Applications

VINOGRAD, M.I., kand.tekhn.nauk; GONCHARENKO, M.S., inzh. [deceased];  
DORONIN, V.M., inzh.; TEPILIN, V.V., inzh.; CHERNINA, B.G., inzh.;  
Prinimali uchastiye: SHEYN, A.S., kand.tekhn.nauk; GORSKIY, V.N.,  
inzh.; ARKHPOVA, V.P., inzh.; LAGUNTSOVA, Ye.V., inzh.;  
KISELEVA, S.A., inzh.; RYBAKOVA, V. Ya., inzh.; BYSTRIKOVA, I.N.,  
tekhnik; BURDYUCHKINA, Ye.P., tekhnik; SOLODIKHIN, I.P., tekhnik.

Improving the process of making EI347 steel for bearings.  
Stal' 21 no.6:543-546 Je '61. (MIRA 14:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii i zavod "Elektrostal'"  
(Bearing metals)

SOV/49-59-2-12/25

AUTHOR: Solodikhina, L. D.

TITLE: On Natural Radioactivity of Atmospheric Precipitation (Ob yestvennoy radioaktivnosti atmosfernykh osadkov)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 2, pp 276-283 (USSR)

ABSTRACT: Although the amount of radioactivity in atmospheric precipitation has been thoroughly examined by various authors (Table 1), the question of how this radioactivity is obtained has not yet been clarified. The experiments were carried out in order to establish the relationship of the radioactivity and the type of precipitation, and to find out whether the radioactivity is acquired during the fall from the clouds to the surface of the Earth. The place of the experiments was situated at two points in the Caucasus Mountains, one at the top of a peak 3150 m above sea level, and the other 1200 m away, in the valley at 2200 m above sea level. Samples of precipitations were collected at both points simultaneously when the weather conditions were associated with the passage of fronts. The measurement of the presence of radon ( $R_a^B$  and  $R_a^C$  only) was made with the counter MCT-17, which was

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SOV/49-59-2-12/25

**On Natural Radioactivity of Atmospheric Precipitation**

calibrated as shown in Fig 1. The graph of the decomposition of radioactivity was made as shown in Fig 2, where the log of the number of impulses was plotted against the time (in minutes). The results of measurements are shown in Table 2, giving the date and time of experiment, intensity  $I \times 10^{-2}$ ,  $\text{g cm}^{-2} \text{min}^{-1}$ , specific intensity  $N \times 10^{-11} \text{ curie/g}$ , number of atoms  $R_a B$  in grams of precipitation, number of atoms of  $R_a C$  in grams of precipitation, ratio of  $R_a B$  to  $R_a C$ , type of precipitation (the lower part of the Table refers to the observation from the peak). Fig 3 illustrates the specific radicactivity in relation to the type and intensity of the precipitation (1 - soft hail, 2 - heavy rain, 3 - continuous rain, 4 - snow flakes). It shows that the radioactivity increases with an intensity of the precipitation (Table 3). In the case of heavy rain, it was noticed that the radioactivity was not affected by the duration of precipitation but only by its intensity. Also, it was found that the radicactivity increases with an increase of size of drops, which can be seen in Fig 4, where the specific radicactivity of various types of precipitation (soft hail, snow flakes, heavy and continuous rain) is given. This suggests that the origin of radioactivity

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SOV/49-59-2-12/25

## On Natural Radicactivity of Atmospheric Precipitation

is connected with the formation of precipitation. Some other observations such as the number of atoms of R B always prevailing in the raindrops while R C - in snow - proved this theory. The specific radioactivity of the samples collected simultaneously at the 2 points of observation is shown in Table 5 (top line - valley, bottom line - peak). It shows that the radioactivity in the samples collected at the peak is lower than in those of the valley. This fact can be explained only by an acquisition of radioactive atoms by raindrops during their travel through the air. It was shown that more radioactivity was acquired by the small drops than by the large ones of the same intensity, which is represented in Figs 4 and Table 6. The former shows the quantity of radioactivity in rain of various intensities, while the latter gives the increase of radioactivity ( $N \times 10^{-11}$  curie/g) for an intensity ( $I \times 10^{-3} \text{ g/cm}^2 \text{ min}^{-1}$ ) of various types of precipitation.

This fact can be explained by the fact that the grand total surface of the small drops is larger than that of the large

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On Natural Radioactivity of Atmospheric Precipitation

drops. Ye. K. Fedorov is thanked for his assistance. There are 6 tables, 4 figures and 21 references; 12 of the references are Soviet, 6 are English and 3 are German.

ASSOCIATION: Akademiya nauk SSSR, Institut prikladnoy geofiziki  
(Academy of Sciences USSR, Institute of Applied Geophysics)

SUBMITTED: November 30, 1957.

Card 4/4

MALAKHOV, S.G.; SOLGDIKHINA, L.D.

Natural radioactivity of the air and precipitation in the region  
of the Norwegian Sea. Izv. AN SSSR. Ser. geofiz. no.4:620-624  
Ap '61. (MIRA 14:3)

1. Institut prikladnoy geofiziki AN SSSR.  
(Atomic energy and meteorology)

Soldatova, L.D.

PHASE I BOOK EXPLOITATION

SOV/6277

Karol', I. L., and S. G. Malakhov, Candidates of Physics and Mathematics, eds.

Voprosy yadernoy meteorologii; sbornik statey (Problems in Nuclear Meteorology; a Collection of Articles) Moscow, Gosatomizdat, 1962. 271 p. Errata slip inserted. 2600 copies printed.

Ed.: A. I. Zavodchikova; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: The book is intended for meteorologists and physicists specializing in the physics of the atmosphere. It may also be of interest to oceanographers concerned with the contamination of seas and oceans with radioactive waste products.

COVERAGE: This is a collection of 15 articles dealing with various problems of nuclear meteorology. The rapid development of the methods of radiometry opened the possibility of measuring minute particles of radioactive substances

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1/3

## Problems in Nuclear Meteorology (Cont.)

SOV/6277

with a great degree of accuracy. This again made it possible to use radioactive isotopes in various fields of science, including meteorology. Tests of nuclear arms and the dispersion into the atmosphere of the waste of atomic industry necessitated a thorough investigation of the patterns of the spread of aerosols and gases, sometimes throughout almost the entire atmosphere. Such investigation is connected with the wide use of the newest methods and results of meteorology and the physics of the atmosphere in general. On the other hand, the distribution in the atmosphere of air masses, labeled with radioactive atoms, gives the meteorologists a new method for the study of atmospheric processes. The entire complex of problems related to the study of the distribution of radioactive impurities in the atmosphere and the use of radioactive atoms as labels in air masses or clouds has lately received the name of "nuclear meteorology" and is regarded as a branch of the physics of the atmosphere. The present collection contains some general articles, as well as articles reporting on the results of special investigations of certain problems of nuclear meteorology conducted in 1960-1961. It is divided in three sections, each dealing with a certain type of problem of nuclear meteorology. Bibliographic references are included at the end of individual articles.

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2/3

Problems in Nuclear Meteorology (Cont.)

SOV/6277

Kirichenko, L. V. Vertical Distribution of the Decay Products of  
Radon in the Free Atmosphere

75

Sisigina, T. I. Measurement of Emanation of Radon From the Surface  
of Various Rocks

104

## SECTION TWO

WASHOUT OF RADIOACTIVE AEROSOLS FROM THE  
ATMOSPHERE BY PRECIPITATIONZimin, A. B. Mechanism of Capture and Deposition of Atmospheric  
Impurities by Clouds and Precipitation

116

Malakhov, S. G., and L. D. Solodikhina. Washout of the Decay  
Products of Radon From the Atmosphere by Rain

151

Card 4/6  
3/3

L 57789-65

EPF(c)/EWP(j)/EWT(m)/T Pe-4/Pr-4 RM/WW

UR/0282/65/000/004/0086/0087

678.664-496.056

ACCESSION NR: AR5014271

25  
B

SOURCE: Ref. zh. Khimicheskoye i kholodil'noye mashinostroyeniye. Otdel'nyy vypusk, Abs. 4.47.590

AUTHOR: Solodikhin, N.I.; Zalomayev, Yu. L.

TITLE: Equipment for coating with polyurethane foam

CITED SOURCE: Vestn. tekhn. i ekon. inform. N.-i. in-t tekhn.-ekon. issled. Gos. kom-ta khim. prom-sti pri Gosplane SSSR, vyp. 9, 1964, 26-27

TOPIC TAGS: polyurethane foam, spray gun design, mobile spray gun, lightweight foam gun

TRANSLATION: A brief description is given of mobile and compact equipment designed at the VNIIS for depositing foamed plastics (rigid or elastic) on vertical or horizontal, flat or corrugated surfaces, as well as for filling small volumes (primarily from above). The equipment weighs 270 kg net, produces up to 4 kg of mixture per minute and deposits layers from 5 to 50 mm thick. Base materials are

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ACCESSION NR: AR5014271

fed to the spray gun from two tanks with a capacity of 20 and 30 liters. The unit uses an electric motor of 0.45 to 0.6 kw and is serviced by two operators. Two illustrations.  
N. Solov'yev.

SUB CODE: IE, MT

ENCL: 00

bjp  
Card 2/2

VASIL'YEV, A.; SOLODIKOV, V.

Perforated cards for the IL-14 device. Radio no. 6:52 Je 63.  
(MIRA 16.7)  
(Punched card systems)

SOLODILOV, L.N.; NELASOV, Yu.P.; SREBNITSKAYA, L.K.; ABASOV, G.S.

Effect of concentrated explosions on the fishes of the  
Caspian Sea. Vop. ikht. 2 no.4:725-730 '62. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh  
metodov razvedki, Moskva (for Solodilov, Nelsov). 2. Azerbayd-  
zhanskaya nauchno-issledovatel'skaya rybokhozyaystvennaya  
laboratoriya, Baku (for Srebnitskaya). 3. Institut zoologii  
Akademii nauk Azerbaydzhanskoy SSR, Baku (for Abasov).  
(Caspian Sea--Fishes)  
(Explosions--Physiological effect)

*SOLODILOV, L.N.*

2  
S/020/62/143/005/009/018  
3142/3102

AUTHORS: Yevdokimov, G. S., Kaplan, B. L., Kogarzo, S. M.,  
Lovlya, S. A., Novikov, A. S., and Solodilov, L. N.

TITLE: The generation of elastic vibrations by the detonation of  
gaseous mixtures under water

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 5, 1962, 1085-1086

TEXT: A new way of generating shock waves was developed for the purpose  
of seismic prospecting under the ocean using the echo method. This method  
is based on detonating mixtures of gases ( $H_2/O_2$  or propane/ $O_2$ ) instead of  
solid explosives. By this means the pressure on the shock wave front is  
about four times lower than when trinitrotoluene is used, because the gas  
mixture is less dense and the velocity of detonation is lower, so that no  
fish are killed. The action of gaseous explosives was checked in several  
tests carried out in the Sea of Azov at a depth of 7-9 m. The gas mixture  
was ignited under water in a special steel container of 250 l volume. An  
exhaust valve above the water surface enabled the reaction products to be

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The generation of elastic vibrations...

S/020/62/143/005/009/018  
B142/B102

controlled. The reflected waves were recorded in the seismographic station. Comparative explosions using trinitrotoluene showed that the explosion of 250 l propane/oxygen mixture produces the same seismic effect as 1 kg trinitrotoluene. The H<sub>2</sub>O<sub>2</sub> mixture was less effective. There is 1 figure.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki (All-Union Scientific Research Institute of Geophysical Exploration Methods); Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: June 7, 1961, by V. N. Kondrat'yev, Academician

SUBMITTED: May 17, 1961

Card 2/2

1. KHNAROVNIKOV, S., KO ATIV, N., COLLECTION, N.
2. USSR (600)
4. Coal-Transportation
7. Strengthening our cooperation in the performance of labor tasks. Mast. Ugl. 1, no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

KUZ'MICH, V.D., inzh.; SOLODILOV, V.Ya., inzh.

Investigating the louvered grids and screen filters for the protection of the main generators of diesel locomotives against atmospheric moisture. Trudy MIIT no.169:145-155 '63.

Development and field tests of the air filter for the main generator of the TE3 diesel locomotive, Ibid.:156-160 '63. (MIRA 17:6)

SARIN, V.I. [deceased], GRIBKOV, V.A., KIDDE, A.I.; SPASILOV,  
V.Ya., red.; BOGDULIN, I.P., red.

[Narrow-gauge TU2 and TU3 diesel locomotives with electric  
driving] Uzkokoleinye teplovozy s elektricheskoi peredachet  
TU2 i TU3. Moskva, Transport, 1967. 297 p.  
(MIRA 18:12)

ROGOZIN, Isaak Iosifovich, red.; BELYAKOV, V.D., red.; KROSTILEV,  
V.Ye., red.; MIKHAYLOVSKIY, V.T., red.; SOLODILOV, Ya.V.\*  
red.; LABEZOV, G.I., red.; SHURA-BURA, B.L., red.; DAAL'-EMG,  
I.I., red.; LEBEDEVA, Z.V., tekhn. red.

[Military epidemiology] Voennaia epidemiologiia. Leningrad,  
Medgiz, 1962. 135 p. (MIRA 15:11)  
(EPIDEMIOLOGY) (MEDICINE, MILITARY)

\* Izraael

Med Day 25 Jan. 66 P.4.

SOLODILOV, Yu.I. (Moskva)

Elastoplastic distribution of stresses in a plate having an oval  
hole. Inzh,zhur. 1 no,4:170-172 '61. (MIRA 15:4)  
(Elastic plates and shells)

SCHODILOV, Yu.I. (Moskva)

Large deformations of a circular diaphragm fastened along the  
contour to a deformable ring. Inzhezhur. 5 no.2:376-381 '65.  
(MIRA 18:4)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5

1950, 1951.

1950. Prezidentiye uchelnaya i chay raziliye yaitsi na vuz Almaty  
(Arenalin, 1951), Dr. Yerzhanova, in-te Geofizikologii im. Akad. K. I. Saryntseva  
6. IV, s. 17-18.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5"

OL'KOVA, M.P.; SOLODIVNIKOV, Yu.P.

Typhoid and paratyphoid fever carriers. Report No.1 Methods of  
detection and control of typhoid and paratyphoid fever carriers;  
a review of foreign literature. Zhur. mikrobiol.; epid. i immun.  
41 no.6:53-56 Je '64. (MIRA 18:1)

1. I Moskovskiy ordena Lenina meditsinskiy institut imeni Sechenova.

SOLODIN, E.M.; BUNIN, G.Ya.

New kaolin suspension feed system. Bum.prom.30 no.9:23 S '55.  
(MLRA 8:12)

1. Zaveduyushchiy proizvodstvom bumazhnoy fabriki imeni Yu.Yanonisa (for Solodin) 2. Smennyy master bumazhnoy fabriki imeni Yu.Yanonisa (for Bunin)  
(Paper making machinery)

BALIBKIN, A.K.; SOLODKAYA, A.D.

Susceptibility of dark-clawed jirds (*Meriones ungriculatus*) to  
plague in experimental inoculation. Tez.i dokl.konf.Irk.gos.nauch.-  
issl protivochum.inst.no.1:3-4 '55. (MIRA 11:3)  
(GERBILS) (PLAQUE)

BALABKIN, A.K.; SOLODKAYA, A.D.

Susceptibility of sharp-clawed gerbils (*Meriones unguiculatus*  
M.Edw.) to experimental plague infection. Izv.Irk.gos.nauch.-  
issl.protivochum.inst. 14:19-25 '57. (MIRA 13:7)  
(GERBILS) (PLAQUE)

SOLODKAYA, A.D.; GOLOSOVA, Z.N.; OL'KHOVIK, Ye.Ya.; SHVEDKO, L.P.;  
LEONT'YEV, A.N.

Tularemia in the Nerchinsk District of Chita Province. Izv. Irk.  
gos.nauch.-issl.protivochum.inst. 20:147-152 '59. (MIRA 13:7)  
(NERCHINSK DISTRICT (CHITA PROVINCE)--TULAREMIA)

SOPIL'NIK, A.Yu.; SOPIL'NIK, V.M.; SOLODKAYA, M.A.

Interrelation between the state of blood supply and the evacuation-motor function of the duodenum under the conditions of collateral blood flow. Arkh.anat., gist. i embr. 49 no.10:22-26 O '65. (MIRA 18:12)

1. Kafedra normal'noy anatomii (zav. - prof. Ye.P.Mel'man) Ivano-Frankovskogo meditsinskogo instituta. Submitted Jan. 18, 1965.

SOLODKAYA, Z. I.

Moscow - Municipal Services

In accordance with the mandate of the electors. (The Zhdanov section of the capital).  
Gor. khoz. Mosk. 27, No. 2, 1953.

Monthly List of "Russian Accessions, Library of Congress, June 1953. Unclassified.

BALEZIN, S.A.; NIKOL'SKIY, I.V.; SOLODKIN, I.S.

Using a new inhibitor in pickling high carbon, steel wire rod  
in sulfuric acid solutions. Stal' 24 no.12:1147-1148 D '64.  
(MIRA 18:2)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im.  
V.I. Lenina.

SOV/137.58.12-24821

Translation from Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 118 (USSR)

AUTHORS Romantseva, L. M., Solodkin, I. S.

TITLE Corrosion of Nitrogenized Steel by Products of Combustion of Sulfur-containing Fuel (Korroziya azotirovannoy stali produktami sgoraniya sernistogo topliva)

PERIODICAL Uch zap Mosk. gos. ped. in-ta, 1957, Nr 99, pp 87-93

ABSTRACT An investigation was made of the effect of the S content of fuel (F) on the corrosive activity of its combustion products (CP) on nitrogenized 38KhMYuA steel. Experiments were performed with F containing 0.11, 1.15, and 2.2% S. Specimens were subjected to the action of CP for 10 min, whereupon they were placed into a moisture chamber and left there first for one day and then for four days. It was found that the corrosive aggressiveness of CP increased with the increase of the S content in the F. An investigation was made of the dissolution of the nitrogenized layer of 38KhMYuA steel in  $H_2SO_4$ ,  $H_2SO_3$ ,  $H_2CO_3$ ,  $HNO_3$ , formic, acetic, and butyric acids and in their mixtures which can be formed in CP. The experiments were carried out for 10 hours and the concentration of the acids was 0.5N. It was established that

Card 1/2

SELODKIN, I.S.

Mechanism of the effect of arsenic anhydride as an inhibitor of acid corrosion. Uch. zap. MGPI no.146:273-276 '60. (MIRA 15:4)  
(Corrosion and anticorrosives) (Arsenic compounds)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5"

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652210018-5"



L 38285-65 EWT(m)/EPF(c)/EWP(j)/EWA(c)/T Ps-4/Pr-4 RPL JW/RM  
ACCESSION NR: AR5003009 S/0081/64/000/020/S035/S035

28

B

SOURCE: Ref. zh. Khimiya, Abs. 20S190

AUTHOR: Peshekhonova, A. L.; Kamenskiy, I. V.; Korshak, V. V.; Solodkin, L. S.;  
Shevchenko, Yu. V.

TITLE: A study of the formation of furfural polymers in the presence of hexa-  
methylene tetramine

CITED SOURCE: Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva, vyp. 42,  
1963, 137-142

TOPIC TAGS: furfural polymer, hexamethylenetetramine polymer, polymer fractiona-  
tion, plastics synthesis, polymer spectroscopy

TRANSLATION: The authors studied the mechanism of formation of polymers based  
on 99.95% pure hydrolytic furfural and 99.98% pure hexamethylenetetramine at a  
mole ratio varying from 30:1 to 3:1. They found that the solid polymers FG-2,  
FG-1 and FG-10, obtained in > 80% yield at the boiling point of the reaction  
mixture and a furfural:hexamethylenetetramine ratio of 15:1, 6:1 and 3:1, re-

Card 1/2

L 38285-65

ACCESSION NR: AR5003009

spectively, are of considerable interest for the manufacture of plastics. The polymers were purified and separated into fractions by the technique of fractional solution in petroleum ether, ethanol, acetone and dioxane followed by precipitation with water. The infrared and ultraviolet spectra indicate the presence of an unchanged furan ring, bound in the polymers in the  $\alpha$ -position, as well as keto groups in FG-2 and FG-1 and amido groups in FG-10 (see RZhKhim, 1964, SN5). L. Kotlyarevskaya.

SUB CODE: CC, OC

ENCL: 00

Card 212.60

SOV-19-58-2-413/551

AUTHOR: Gorev, N.D.; Polozhentsev, S.A.; Solodkin, P.A.; Khutorskoy, B.O.; Kiselev, P.S.; Bochkova, M.F.; Zakharov, V.N.; Musilevich, S.D., and Fedoseyeva, K.P.

TITLE: A Material for Decorative and Finish Shine (Material dlya dekorativnoy i otdelochnoy blestki)

PERIODICAL: Byulleten' izobreteniya, 1958, Nr 2, p 96 (USSR)

ABSTRACT: Class 48b, 4C3. Nr 110860 (580424-28 of 8 Jul 1957). Submitted to the Committee of Inventions and Discoveries at the Council of Ministers of USSR. A material for decorative and finish shine, coated in vacuum by a thin layer of thermally vaporized aluminum, with triacetate film of 0.12-0.25 mm thickness used as base.

1. Finishes--Materials 2. Aluminum coatings--Applications  
3. Acetate films--Coatings

Card 1/1

CHINA,

China - Commerce - Great Britain

England's losses caused by discontinuing trade with China. Vop. ekon. no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

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(MLRA 9:10)

(England--Economic conditions)

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[Trade of monopolies with underdeveloped countries] Torgovlia  
monopolii s ekonomicheski slabo razvitymi stranami. Moskva,  
Gos. izd-vo polit. lit-ry, 1957. 151 p. (MIRA 11:2)  
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(International economic relations)

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[Economy of capitalist countries in 1957] Ekonomika kapitalisticheskikh stran v 1957 godu. Pod red. N.V.Orlova, IU.N.Kapelinskogo i V.P.Goriunova. Moskva, Izd-vo sotsial'no-ekon.lit-ry, 1958.  
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[The economy of capitalist countries in 1960; economically  
developed countries] *Ekonomika kapitalisticheskikh stan*  
v 1960 godu; ekonomicheski rasvitye strony. Pod red. Iu.N.  
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SIROTINA, Galina Nikolayevna; YERLYKINA, Irina Semenova; KALIKHMAN, L.Ye..  
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[Book of problems in hydromechanics] Zadachnik po gidromekhanike.  
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(Fluid mechanics--Problems, exercises, etc.)

SEREБRYAKOV, Viktor Vasil'yevich; SOLODKIN, V.K.. red.; GRISHANIN, K.V..  
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L 00726-66 EWT(1)/EWP(m)/FCS(k)/ETC(m)/EWA(1) WW

UR/3043/65/000/004/0103/0107

ACCESSION NR: AT5013284

AUTHOR: Pchelkina, L. V.; Solodkin, V. K.

TITLE: The correction of the boundary layer effect on the flow in nozzles with a broken generatrix

SOURCE: Moscow. Universitet. Vychislitel'nyy tsentr. Sbornik rabot, no. 4, 1965. Chislennyye metody v gazovoy dinamike (Numerical methods in gas dynamics), 103-107

TOPIC TAGS: supersonic nozzle, nozzle design, axisymmetric nozzle, nozzle flow, boundary layer flow, boundary layer theory

ABSTRACT: The larger the Mach number for which a supersonic nozzle is designed, the smaller the characteristic Reynolds number and, consequently, the larger the region of flow occupied by the boundary layer. For given diameters of the exhaust nozzle cross section and given flow parameters, a reduction of the boundary layer may be achieved by a reduction in nozzle length. Nozzles with a broken generatrix or nozzles with an angle point are of minimum length. U. G. Pirumov et al. (Chislennyye metody v gazovoy dinamike, Sbornik rabot, VTs MGU, no. 2, 1963) presented earlier a method for the design of axisymmetric nozzles with an angle point in the presence of equilibrium physico-chemical transformation. The correction of the shape discussed in the present paper

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ACCESSION NR: AT5013284

is supposed to secure a constant Mach number equal to the exit value  $M_0$  in viscous flow along the axis of the nozzle (starting with a certain point). Following the known procedure of the boundary layer theory, the corrected shape is obtained from the original one by a shift in the direction of the outward normal through a distance equal to the thickness of the boundary layer displacement. Results are calculated for the  $M_0$  value of 10. Orig. art. has: 5 formulas and 4 figures.

ASSOCIATION: Vychislitel'nyy tsentr, Moskovskiy universitet (Computer Center, Moscow University)

ENCL: 00 SUB CODE: ME, MA

SUBMITTED: 00

OTHER: 000

NO REF SOV: 002

Card 2/2

L 41834-65 EWT(1)/EWP(m)/ENG(s)-2/ENG(v)/EPR/FCS(k)/EWA(1) Pd-1/Pe-5/Pa-4/  
Pi-4/Pw-4 WW

UR/0286/65/000/007/0120/0120

ACCESSION NR: AP5010934

AUTHOR: Kuleshov, V. I.; Lyshchinskiy, V. V.; Maksimov, S. M.; Solodkin, V. K.

41

43

TITLE: Regulated nozzle for wind tunnels. Class 42, No. 169841

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 120

TOPIC TAGS: wind tunnel, regulated nozzle, nozzle

ABSTRACT: This Author Certificate introduces a regulated nozzle for wind tunnels with a rigid intake section and a flexible outlet section. In the flexible section a rigid plate has been mounted to form a rectilinear zone in the flexible wall and its support. The arrangement secures a more uniform Mach number field including the correction for the boundary layer thickness. [AC]

Card 1/2

L 41834-65

ACCESSION NR: AP5010954

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po aviatcionnoy tekhnike SSSR (Organization of the State Committee for Aviation Technology, SSSR)

SUBMITTED: 26Feb64

ENCL: 00 SUB CODE: ME, PR

NO REF SOV: 000

OTHER: 000 ATD PRESS: 3235

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Card 2/2

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Effectiveness of preformed water stemming (from "Bergakademie,"  
now. 7-8, 1961). Gor. zhur. no.12:52 D '62. (MIRA 15:11)  
(Czechoslovakia--Blasting--Equipment and supplies)

S-PLODKIN, YE.P.

Vliianie formy monoplannogo kryla na ego aerodinamicheskie kharakteristiki. Chast' I.  
Vliianie ochertaniia kryla v plane. Moskva, 1935. 58 tables, diagrs. (TSAGI.  
Trudy, no. 234)

Summary in English.

Title tr.: Effect of the form of a monoplane wing on its aerodynamic characteristics.

Part I. Effect of the plan form of a wing.

QA911, M65 no.234

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,  
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Opredelenie aerodynamicheskikh kharakteristik monoplannogo kryla proizvolnoi formy.  
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Summary in English.

Title tr: Determination of aerodynamical characteristics of a monoplane wing of an  
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QA911, M65 no. 194

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

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Seriia profilei D2/ Moskva, 1936. 52 p., tables, diagrs, (TSAGI. Trudy, no.264)

Summary in English.

Title tr.: D2 airfoil series.

QA911.M65 no.264

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,  
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Rabota mikrotrubki polnogo napora v usloviakh dvukh mernogo pograničnogo sloia. Moskva, 1939. 18 p., diagrs. (TSAGI. Trudy, no. 416)

Title tr.: Functioning of microtubes for total pressure head measurements under conditions of a two-dimensional boundary layer.

QA911.M65 no. 416

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

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SOLODINK, E.E., G.A. GURZHIENKO, and S.S. SHCHEGOLEVITSKII.

Eksperimental'noe issledovanie prostranstvennogo pogranichnogo sloia kryla samoleta na rezhime maksimal'noi skorosti. Moskva, 1939. 39 p., illus., diagrs. (TSAGI. Trudy, no.399)

Title tr.: Experimental study of the extent of the boundary layer around the aircraft wing at maximum speed.

QA911.M65 no.399

;0: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,  
1955

PHASE I BOOK EXPLOITATION

SOV/6580

Solodkin, Yefim Yefremovich, and Aron Semenovich Ginevskiy

Turbulentnoye techeniye vyazkoy zhidkosti v nachal'nykh uchastkakh  
osesimmetrichnykh i ploskikh kanalov (Turbulent Flow of Viscous  
Fluid in Inlet Sections of Axisymmetric and Plane Channels)  
Moscow, Oborongiz, 1957. 55 p. (Series: Moscow.  
Tsentral'nyy aero-gidrodinamicheskiy institut. Trudy, no. 701)  
No. of copies printed not given.

Ed.: Yu. G. Zakharov, Candidate of Technical Sciences; Ed. of  
Publishing House: L. I. Sheynfayn; Tech. Ed.: N. A.  
Pukhlikova; Managing Ed.: Ye. V. Latynin, Engineer.

PURPOSE: This book is intended for technical personnel concerned  
with fluid flow.

COVERAGE: The book discusses the flow of viscous fluid in the  
inlet section of ducts of various cross sections. In the case  
of an axisymmetrical duct, it is shown that a better agreement  
is obtained between the calculated and the experimental results

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Turbulent Flow of Viscous (Cont.)

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by taking into account the transverse curvature of the surface than by employing the usual theories based on the power or logarithmic law of velocity distribution in the boundary layer. However, in the case of a plane duct, good agreement between the calculation and the experiment is obtained using the logarithmic law of velocity distribution. The characteristics of a circular tube and a plane duct can be considered as extreme cases of an annular cross-section duct. No personalities are mentioned. Three Soviet and three German references are found in the text.

## TABLE OF CONTENTS:

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Ch II. Turbulent Boundary Layer and Resistance in the Inlet Section of a Circular Duct	26

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Turbulent Flow of Viscous (Cont.).

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Ch III. Turbulent Boundary Layer and Resistance in the Inlet  
... Section of a Plane Duct

41

AVAILABLE: Library of Congress

SUBJECT: Aerospace

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